Oct. 18, 1927. 1,646,129

C. H. WAGNER

GUIDE FOR CUTTING ELBOWS

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Fig. 1.

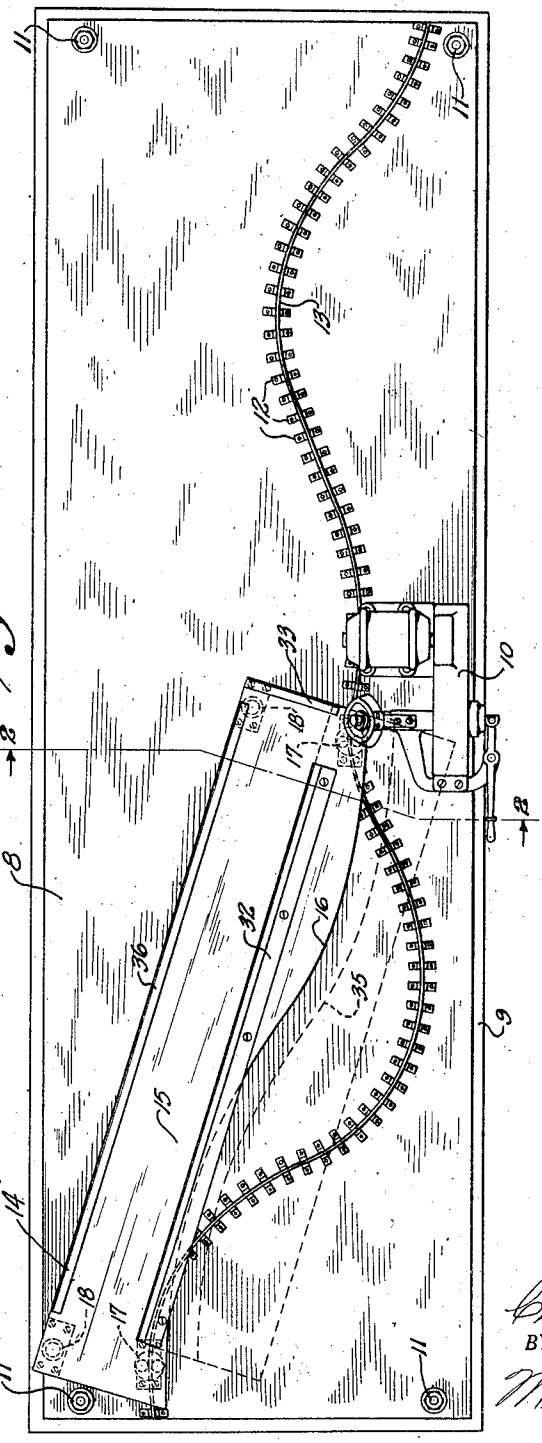

Fig. 5.

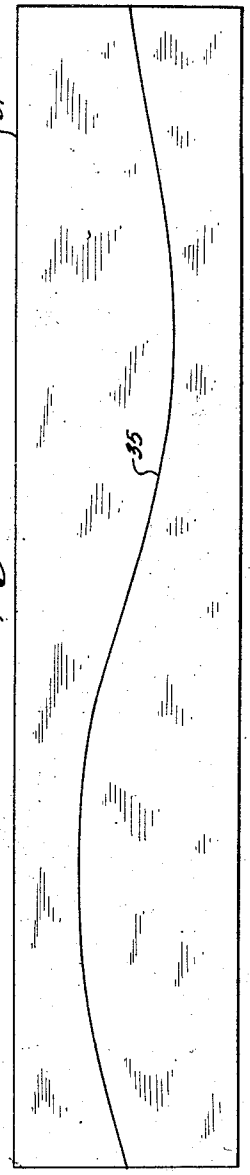

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Fig. 2.

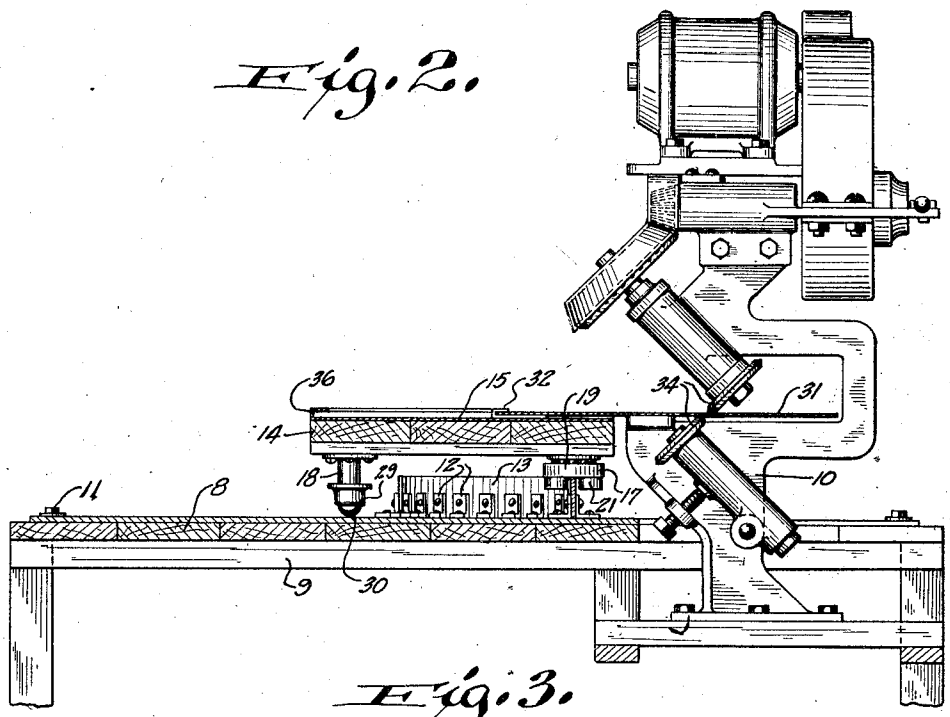


Fig. 3.

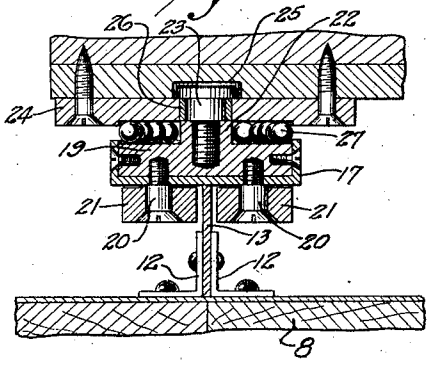
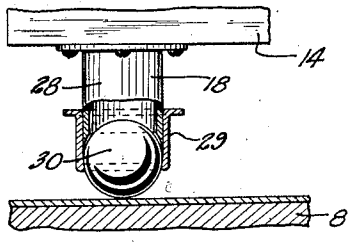


Fig. 4.



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UNITED STATES PATENT OFFICE.

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GUIDE FOR CUTTING ELBOWS.

Application filed November 5, 1926. Serial No. 146,480.

This invention relates to improvements in guides for cutting elbows.

Heretofore, tinners in cutting blanks into shape for elbows for pipe joints, have found it necessary to mark the blank and manually guide it with respect to the cutter. Obviously, this procedure is slow and inaccuracies may result.

It is, therefore, the primary object of the present invention to overcome the above objections by providing a guide for cutting elbows, comprising a cooperating track and carriage.

A further object of the invention is to provide a device of the class described including a curved track disposed adjacent a cutter and adapted to carry a carriage mounted thereon which holds the blank, the track being curved to produce a cut of a desired shape in the blank.

A further object of the invention is to provide a guide for cutting elbows which is of very simple construction, is easily manipulated, is efficient and rapid in operation, is strong and durable, and is well adapted for the purposes described.

With the above and other objects in view, the invention consists of the improved guide for cutting elbows, and its parts and combinations as set forth in the accompanying claims, and all equivalents thereof.

In the accompanying drawings, in which the same reference characters indicate the same parts in all of the views:

Fig. 1 is a plan view of the improved guide for cutting elbows;

Fig. 2 is a cross-sectional view thereof taken on line 2—2 of Fig. 1, and on a larger scale;

Fig. 3 is an enlarged sectional detail view of a portion of the carriage showing a wheel and its relation to the track;

Fig. 4 is an enlarged detail view, partly in section of one of the supports for the opposite side of the carriage; and

Fig. 5 is a plan view of a blank showing the line of cut.

Referring now more particularly to the drawings, it will appear that the numeral 8 indicates a rectangular base member adapted for mounting on a support or table 9, and held thereto in spaced relation with respect to a cutter 10 by means of bolts 11, the cutter being secured to the table at one edge thereof and medially of the ends of the table.

The upper face of the base 8 has secured thereto by means of angle members 12, an elongated compound curved track 13. The curvature of the track is geometrically ascertained, and depends on the curvature of the cut of the blank desired. Obviously, variously curved tracks will result in variously cut blanks to form elbows of predetermined angularities.

Adapted for mounting on the track 13 and base 8 is a carriage 14 having a flat work supporting upper surface 15. The forward side edge of the carriage is curved, as at 16, to correspond with the desired curvature of the cut of the blank. The forward side of the carriage is supported on the track by a pair of guide members 17, while the rear side of the carriage is supported on the base by a pair of rollers 18.

As shown clearly in Fig. 3, each guide member comprises a disc member 19 having revolubly secured to its lower face, by means of studs 20, a pair of spaced apart rollers 21. The upper portion of the disc member 19 is formed with a medial shoulder 22 into which the shank of a shouldered stud 23 is threaded. Said stud 23 extends through an apertured plate 24 secured to the lower surface of the carriage, and the head of the stud revolubly lodges in a recess 25 in the carriage. A bushing 26 surrounds a portion of the stud. As shown, the carriage is mounted so that the track 13 is positioned between the rollers 21 and as the carriage is moved along the curved track, the rollers 21 are free to turn, as is the disc member 19. Ball bearings 27 are interposed between the disc member and the plate 24 in a race-way provided therefor.

Fig. 4 illustrates in detail the construction of one of the roller members 18 depending from the rear side of the carriage, and it will appear that a tubular depending portion 28 carries at its lower end a cupped member 29 which retains a large ball bearing 30.

A rectangular blank of tin 31 is used with the machine, and the same is engaged by guides 32 and 33 secured to the upper face of the carriage. The carriage is then started at the left in Fig. 1 and moved to the right along the curved track and into contact with the revoluble cutting elements 34 of the cutter 10. The cutter will then cut the blank along the line indicated at 35,

dividing the blank into two pieces, with correctly curved edges for a desired elbow.

The carriage is also provided with a rear guide 36 which can be used for holding a wide blank, the forward guide 32 being removed in this event.

It should be understood that the curvature of the track may be varied, and depends in its shape on the shape of the cut desired.

From the foregoing description, it will be seen that the improved guide for cutting elbows is of very simple and novel construction, and is well adapted for the purpose described.

What I claim as my invention is:

1. A guide for cutting elbow blanks, comprising a curved track extending adjacent a cutter, and a blank holding carriage removably mounted on said track.

2. A guide for cutting elbow blanks, comprising a compound curved track extending adjacent a cutter, and a blank holding carriage removably mounted on said track.

3. A guide for cutting elbow blanks, comprising a curved track extending adjacent a cutter, and a blank holding carriage removably mounted on said track, the line of travel of the carriage being longitudinally of the track and in a curve differing from the curvature thereof.

4. A guide for cutting elbow blanks, comprising a single rail curved track extending adjacent a cutter, and a blank holding carriage removably mounted on said track and movable therealong.

5. A guide for cutting elbow blanks, comprising a base member mounted in juxtaposition to a cutter, a curved track carried by said base member, and a carriage removably mounted on the base member and the track and guided by the latter with respect to said cutter.

6. In combination, a supporting member, a cutter mounted thereadjacent and medially of its ends, a compound curved single rail track mounted on said supporting member and extending adjacent said cutter, a carriage removably mounted on said track and movable therealong and longitudinally of the supporting member, and a sheet of metal engaged by said carriage and adapted to be cut by said cutter in a curved line differing from the curvature of said track.

In testimony whereof, I affix my signature.

CHARLES H. WAGNER.